

**ABSTRACT OF THE DISCLOSURE**

A synthetic impedance telecommunication line driver has no electrical energy-dissipating elements in series with its output, and synthesizes its output impedance in accordance with current fed back from an output current 5 (mirror) sensing circuit. This allows the driver to realize substantially reduced power requirements for driving a telecommunication line, such as, but not limited to a DSX-1 line. The driver includes an operational amplifier having a first polarity input 10 coupled through an input resistor to an input port, to which a signal voltage is applied to an output port is coupled. A second polarity input of the amplifier is coupled to a reference voltage. A feedback resistor is coupled between the amplifier output and its inverting 15 input. An output current-dependent current source, such as a current mirror coupled in circuit with the output node, generates a current as a small fraction  $k$  of the output current. This mirrored fraction of the output current is fed back to an input of the amplifier, and 20 enables the output impedance  $Z_{out}$  of the driver to be defined in terms of the mirror current ratio  $k$  and the value of the driver amplifier's feedback resistor.